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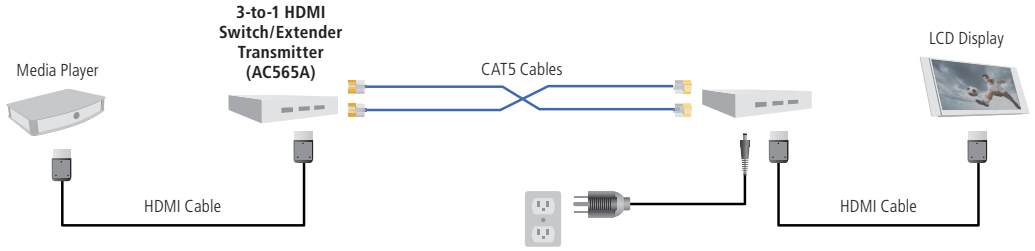
HDMI Extender Kits over CATx

Switch and extend HDMI over copper—even over existing copper networks.

FEATURES

- Extend HDMI video and audio signals over CATx cable—get more distance than is possible with HDMI cables.
- Work with both 1080p and 1080i.
- HDMI 1.2 compliant.
- Support DVI video.
- Lightweight, low-profile designs install in tight spaces, including behind displays.

Typical application.



OVERVIEW

AC564A-R2

- Connects a High-Definition Multimedia Interface (HDMI®) display up to 200 feet (60.9 m) from an HDMI source using two CAT5e or CAT6 cables.
- Extends 1080p 12-bit Deep Color video up to 90 feet (27 m) over CAT6 cables.
- Supports 1080i resolution over CAT5e or CAT6 cables at 200 feet (60.9 m).
- Transmits 1080p 8-bit video up to 150 feet (45 m) over CAT5e cables and up to 200 feet (60 m) over CAT6 cables.
- Extends HDTV much farther than HDMI cables—without any of the pixilation and the loss of video and audio quality that often occurs when using HDMI cable links longer than 15 feet (4.6 m).
- Works with HDMI 1.3a compliant equipment and supports DVI video.
- Boosts HDMI audio and video signals between a DVD, an HD-DVD, a Blu-ray player, or a satellite set-top box and a remote HDMI display device.
- Also great for extending HDMI to classroom and conference room projectors, as well as for use in collaborative PC environments and high-resolution medical information systems.
- Easy to mount with the included Velcro® pads.

AC565A and AC565A-220

- Enable up to three different HDMI sources to be connected to one remote HDMI display via two CAT5e or CAT6 UTP cables.
- Switch between PCs, laptops, servers, and HD-DVD or Blu-ray players with HDMI connectors for remote display of the source video on a plasma or an LCD screen or a projector system.
- Supports 1080 Deep Color video extension at distances up to 250 feet (76.2 m) over two CAT5e cables and 280 feet (85.3 m) over CAT6 cables.
- Also extend 1080p video up to 100 feet (30.4 m) over CAT5e cabling and 130 feet (39.6 m) over CAT6.
- Work with HDMI 1.2-compliant equipment and DVI-D video devices.
- Switch between sources, simply by selecting either transmitter or receiver with the port selector button.
- Extend HDTV farther than HDMI cables without the loss of video and audio quality that frequently occurs when using HDMI cable links longer than 15 feet (4.5 m).
- Transmitter cleans and re-aligns the signal before transmitting it to the display.
- Also great for switching and extending Hi-Def video in classroom, conference room, trade show, collaborative PC, or medical environments.
- Choose a kit with either a 110-VAC (AC565A) or 220–240-VAC (AC565A-220) power supply.

All extender kits

- Include a source-side transmitter, display-end receiver, and power supply.
- Enable you to use flexible, easy-to-pull twisted-pair cable and, in some cases, repurpose existing copper infrastructure for video/audio extensions.
- Lightweight, low-profile design. Install in tight spaces behind displays, in kiosk enclosures, or in AV electronics cabinets.
- Ideal for digital signage, commercial and residential AV systems, and home theater applications.
- Durable construction with ABS fire-retardant plastic enclosures.
- RoHS compliant.
- For 1080i and 1080p extensions as far as 492 feet or even 820 feet, see our AC560A–AC561A family of HDMI CATx Extenders (Transmitter and Receivers).

Technically Speaking

HDMI

The High-Definition Multimedia Interface ® (HDMI) is the first digital interface to combine uncompressed high-definition video, up to eight channels of uncompressed digital audio, and intelligent format and command data in a single cable. It is now the de facto standard for consumer electronics and high-definition video and is gaining ground in the PC world.

HDMI supports standard, enhanced, and high-definition video. It can carry video signals at resolutions up to and beyond 1080p at 60 Hz (and higher).

HDMI offers an easy, standardized way to set up home theaters and AV equipment over one cable. Use it to connect audio/video equipment, such as DVD players, a set-top box, and A/V receivers with audio and/or video equipment, such as a digital TV, PCs, cameras, and camcorders. It also supports multiple audio formats from standard stereo to multichannel surround sound. Plus it provides two-way communications between the video source and the digital TV, enabling simple, remote, point-and-click configurations.

NOTE: HDMI also supports HDCP (High-bandwidth Digital Content Protection), which prevents the copying of digital audio and video content transmitted over HDMI cable. If you have a device between the source and the display that supports HDMI but not HDCP, your transmission won't work, even over an HDMI cable.

HDMI offers significant benefits over older analog A/V connections. It's backward compatible with DVI equipment, such as PCs, TVs, and other electronic devices using the DVI standard. A DVI-to-HDMI adapter can be used without a loss of video quality. Because DVI only supports video signals, not audio, the DVI device simply ignores the extra audio data.

HDMI connectors

There are four HDMI connector types. Type A and Type B are defined in the HDMI 1.0 specification. Type C is defined in HDMI 1.3, and Type D is defined in HDMI 1.4.

Type A: 19 pins. It supports all SDTV, EDTV, and HDTV modes. It is electrically compatible with single-link DVI-D.

Type B: 29 pins. Offers double the video bandwidth of Type A. Use for very high-resolution displays such as WQUXGA. It's electrically compatible with dual-link DVI-D.

Type C Mini: 19 pins. This mini connector is intended for portable devices. It is smaller than Type A but has the same pin configuration and can be connected to Type A cable via an adapter or adapter cable.

Type D Micro: 19 pins. This also has the 19-pin configuration of Type A but is about the size of a micro-USB connector.

HDMI cable

Recently, HDMI Licensing, LLC announced that cables would be tested as Standard or High-Speed cables.

Standard HDMI cable is designed for use with digital broadcast TV, cable TV, satellite TV, Blu-ray and upscale DVD players to reliably transmit up to 1080i or 720p video (or the equivalent of 75 MHz or up to 2.25 Gbps).

High-Speed HDMI reliably transmits video resolutions of 1080p and beyond, including advanced display technologies such as 4K, 3D, and Deep Color. High-Speed cables can also accommodate WQXGA cinema monitors (resolution of 2560 x 1600). High-Speed HDMI is the recommended cable for 1080p video. It will perform at speeds of 340 MHz or up to 10.2 Gbps, the highest bandwidth currently available over an HDMI cable.

Additional resources and licensing information is available at HDMI.org.

AC564A-R2
Transmitter and
Receiver

AC565A
Transmitter and
Receiver

TECH SPECS

Bandwidth — AC564A-R2: 225 MHz; AC565A and AC565A-220: 165 MHz
Compliance — FCC Class A, UL® 94 V0 (flammability rating)
Distance (Maximum) — AC564A-R2: 480i, 480p: CAT5e and CAT6: 300 ft. (91.4 m); 720p, 1080i: CAT5e and CAT6: 200 ft. (60.9 m); 1080p 8-bit: CAT5e: 150 ft. (45 m); CAT6: 200 ft. (60 m); 1080p 12-bit Deep Color: CAT5e: Not Specified; CAT6: 90 ft. (27 m);
AC565A, AC565A-220: 480i, 480p: CAT5e and CAT6: 280 ft (85.3 m); 720p, 1080i: CAT5e: 250 ft. (76.2 m); CAT6: 280 ft. (85.3 m); 1080p: CAT5e: 100 ft. (30.4 m); CAT6: 130 ft. (39.6 m)
Operating Environment — Temperature: 32 to 131° F (0 to 55° C); Humidity: Up to 95% noncondensing
Standards — AC564A-R2: HDMI 1.3; AC565A, AC565A-220: HDMI 1.2, DVI-D
CE Approval — Yes
RoHs—Yes
Connectors — AC564A-R2: On both the transmitter and receiver: (1) HDMI F, (1) RJ-45S (video), (1) RJ-45S (DDC);
AC565A, AC565A-220: Transmitter: (3) HDMI F, (1) RJ-45S (video); (1) RJ-45S (DDC); Receiver: (1) HDMI F, (1) RJ-45S (video); (1) RJ-45S (DDC)
Power — Input: AC564A-R2: 110–240 VAC, 50–60 Hz, autosensing, with interchangeable North America and Continental European blades;
AC565A: 110 VAC, 60 Hz;
AC565A-220: 220–240-VAC, 50-Hz;
Output: All: 12 VDC;
Consumption: All: 3 W
Size — AC564A-R2: 1"H x 2.4"W x 2.25"D (2.5 x 6.1 x 5.7 cm); AC565A and AC565A-220: 1.25"H x 3.8"W x 4.5"D (3.2 x 10 x 11.4 cm)
Weight — AC564A-R2: 0.7 lb. (0.3 kg); AC565A, AC565A-220: 1.5 lb. (0.7 kg)

What's included

(ACS564A-R2)
- (1) transmitter
- (1) receiver
- (1) power supply
- (2) power clips (US,EU, UK)
- (1) manual
- (2) Velcro® pads

ASCS565, ACS565A-220
- (1) transmitter
- (1) receiver
- (1) power supply
- (1) manual

NOTE: Does not support Denon AVR-1908 equipment.

NOTE: Maximum distances listed are based on the maximum length of 6.6 feet (2 m) of HDMI cable used at each end. HDMI cables are not included.

NOTE: When installed in an electrically noisy environment, STP cable must be used. In addition, cross-connection reduces the effective distance depending on the grade of twisted-pair cable you use.

NOTE: Technical specification weight is the unit weight. It is not the packaged shipping weight. For shipping weight, please contact Black Box Customer Service at 877-877-2269.

Item	Code
HDMI Extender Kit over Dual CATx	**AC564A-R2**
3-to-1 HDMI Switch/Extender Kit over CATx, 110-VAC	**AC565A**
3-to-1 HDMI Switch/Extender Kit over CATx, 220-VAC	**AC565A-220**

Why Buy From Black Box? Exceptional Value. Exceptional Tech Support. Period.

Recognize any of these situations?

- You wait more than 30 minutes to get through to a vendor's tech support.
- The so-called "tech" can't help you or gives you the wrong answer.
- You don't have a purchase order number and the tech refuses to help you.
- It's 9 p.m. and you need help, but your vendor's tech support line is closed.

According to a survey by *Data Communications* magazine, 90% of network managers surveyed say that getting the technical support they need is extremely important when choosing a vendor. But even though network managers pay anywhere from 10 to 20% of their overall purchase price for a basic service and support contract, the technical support and service they receive falls far short of their expectations—and certainly isn't worth what they paid.

At Black Box, we guarantee the best value and the best support. You can even consult our Technical Support Experts before you buy if you need help selecting just the right component for your application.

Don't waste time and money—call Black Box today.